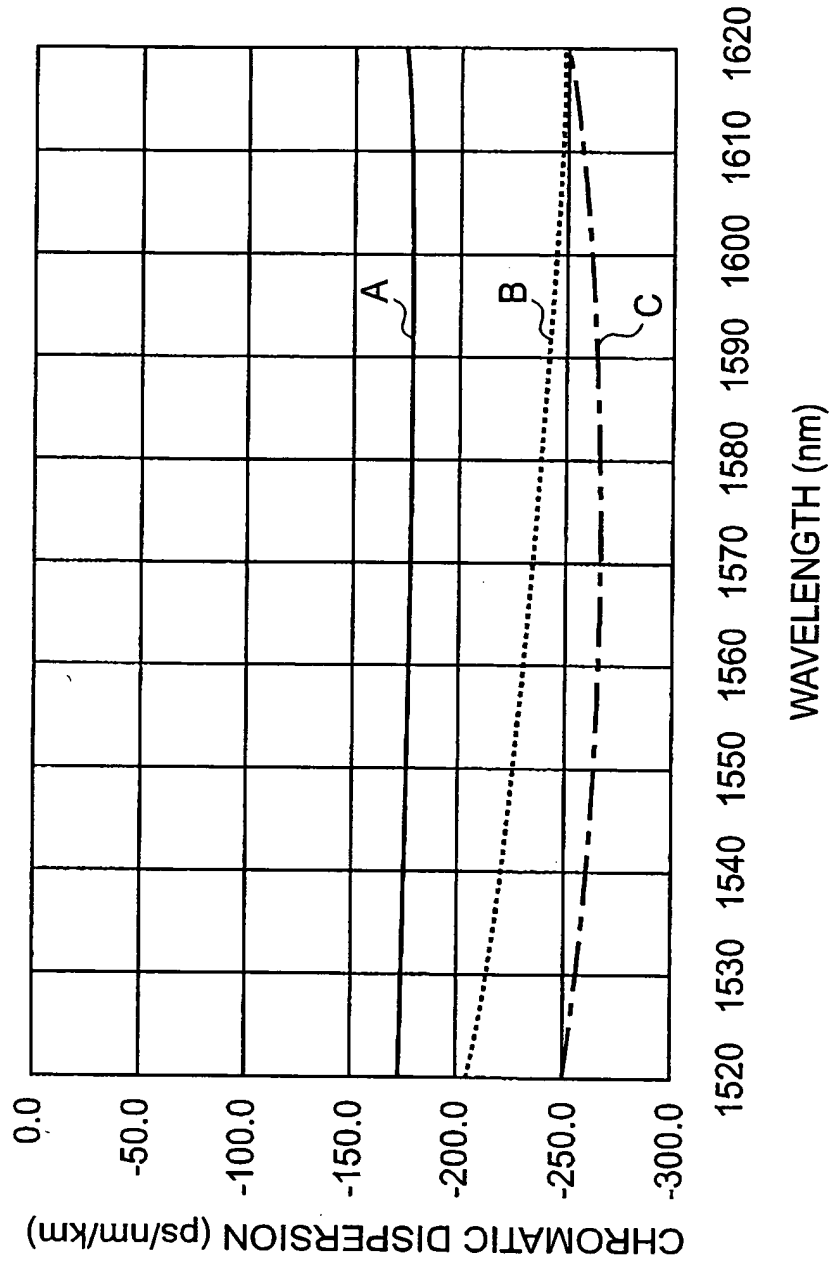


FP03-0296-00

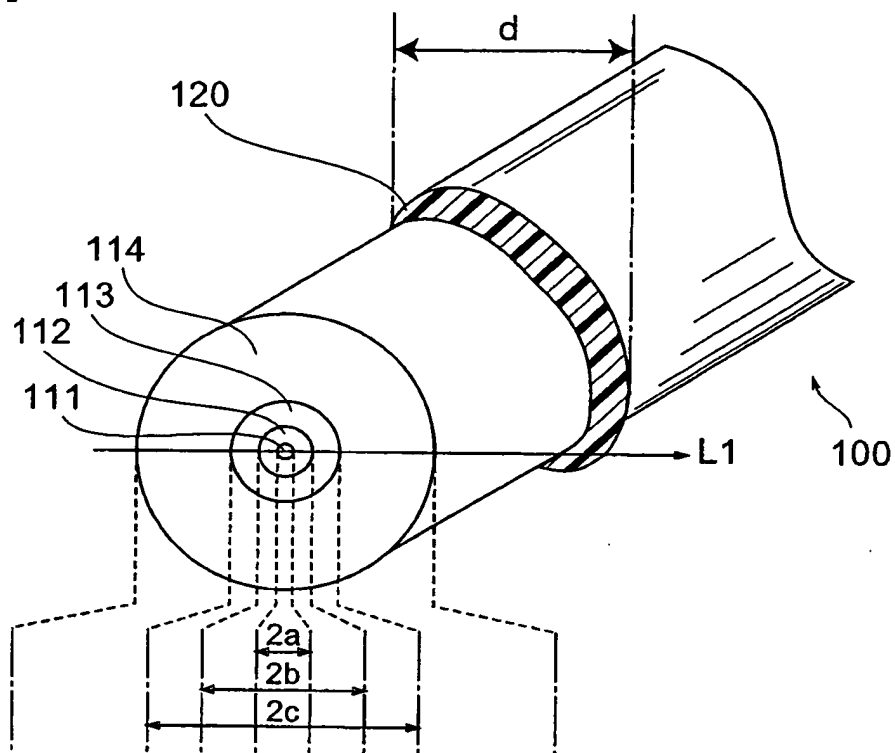
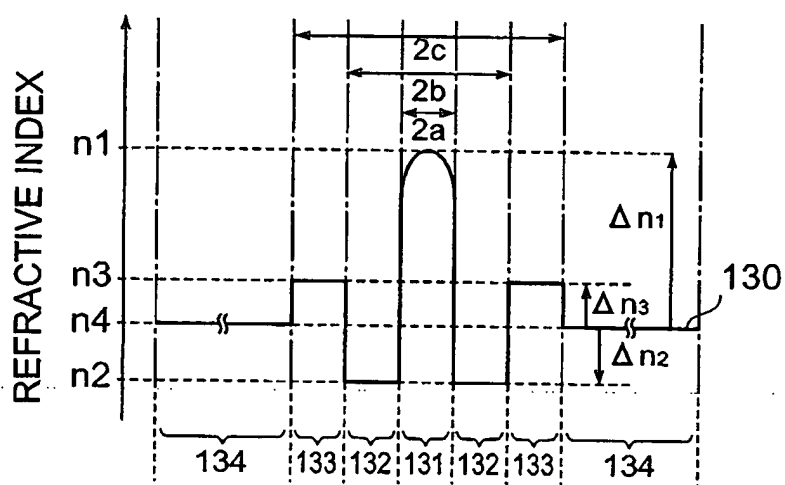
1/22

Fig.1



FP03-0296-00

2/22

Fig.2A**Fig.2B**

FP03-0296-00

3/22

Fig.3A

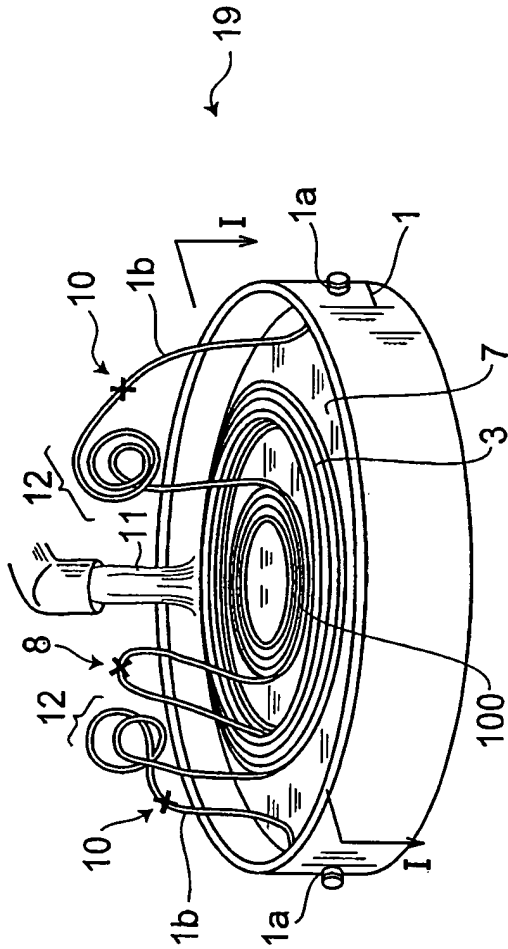
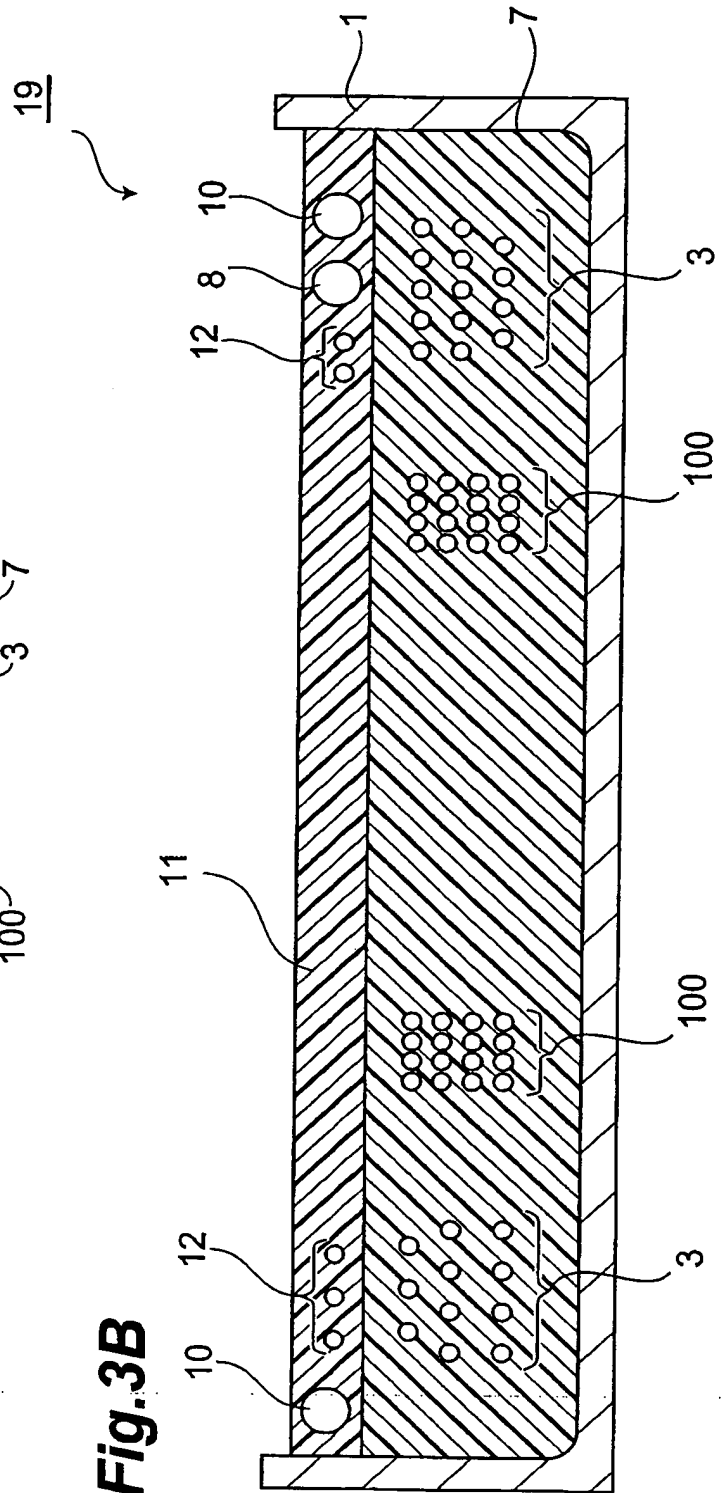


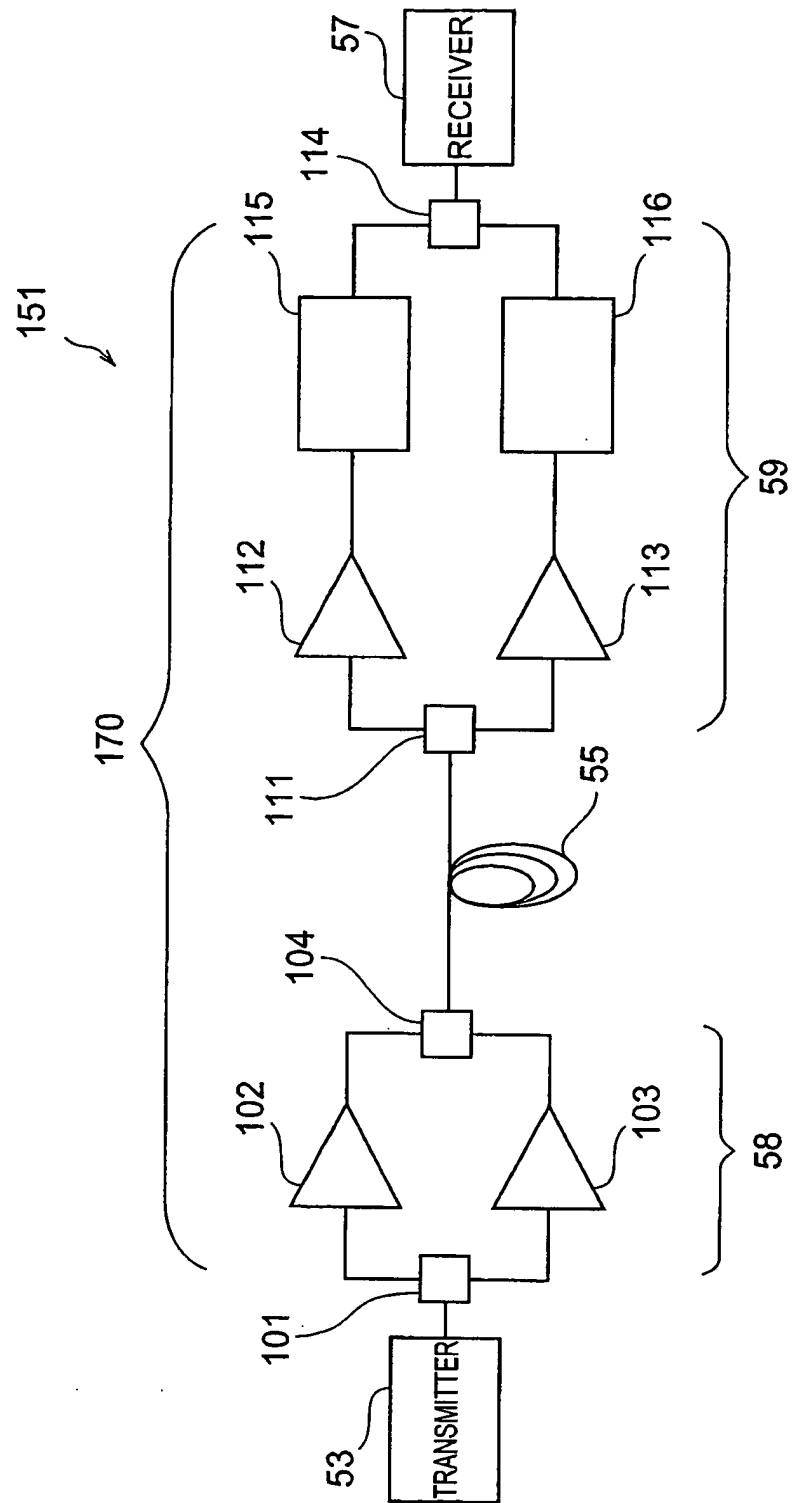
Fig.3B



FP03-0296-00

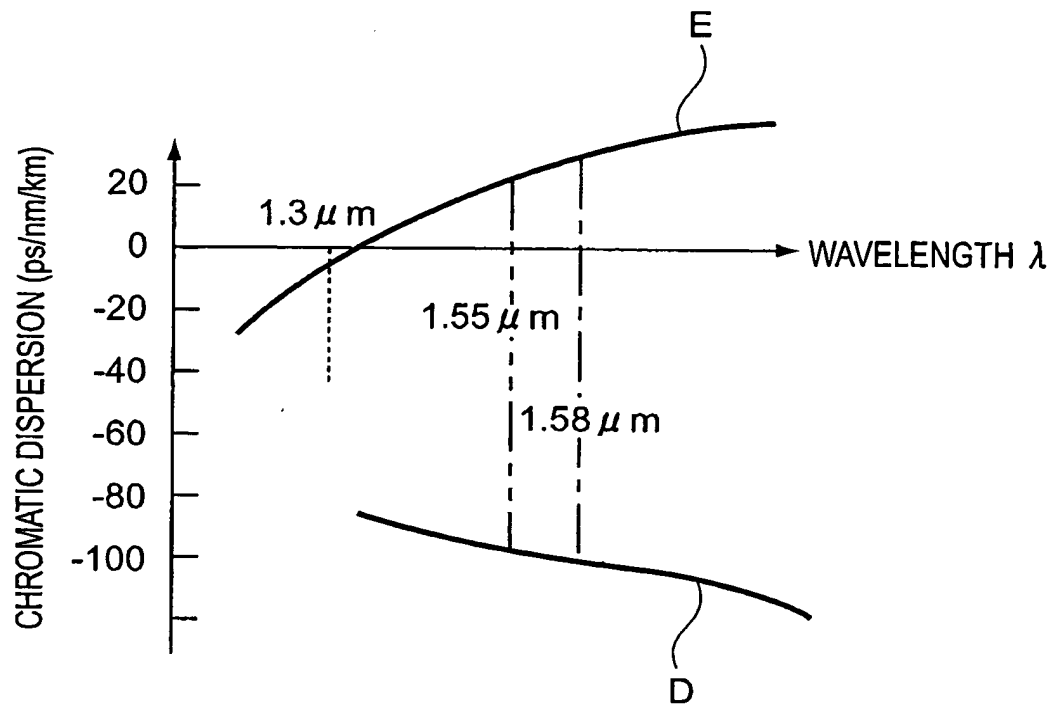
4/22

Fig.4



FP03-0296-00

5/22

Fig.5

FP03-0296-00

6/22

Fig.6

DISPERSION COMPENSATING OPTICAL FIBER	Δn_1 (%)	Δn_2 (%)	Δn_3 (%)	2a (μm)	2b (μm)	2c (μm)	CHROMATIC DISPERSION AT 1520 nm (ps/nm/km)	DISPERSION SLOPE AT 1520 nm (ps/nm ² /km)	CHROMATIC DISPERSION AT 1550 nm (ps/nm/km)	DISPERSION SLOPE AT 1550 nm (ps/nm ² /km)	EFFECTIVE CUTOFF WAVELENGTH (μm)	MFD AT 1550 nm (μm)	INCREASE IN BENDING LOSS WITH BENDING DIAMETER OF 40 mm AT 1550 nm (dB/km)	INCREASE IN BENDING LOSS WITH BENDING DIAMETER OF 60 mm AT 1550 nm (dB/km)
SAMPLE F1	2.8	-0.74	0.32	2.6	5.2	10.8	-172	-0.16	-176	-0.08	1.28	4.0	≤ 0.01	≤ 0.01
SAMPLE F2	2.8	-0.74	0.32	3.2	7.7	15.4	-249	-0.64	-263	-0.28	1.45	4.2	≤ 0.05	≤ 0.01
COMPARATIVE EXAMPLE F3	1.6	-0.50	0.30	4.3	11.0	15.4	-61	-0.25	-70	-0.36	1.40	4.7	≤ 0.5	≤ 0.02

FP03-0296-00

7/22

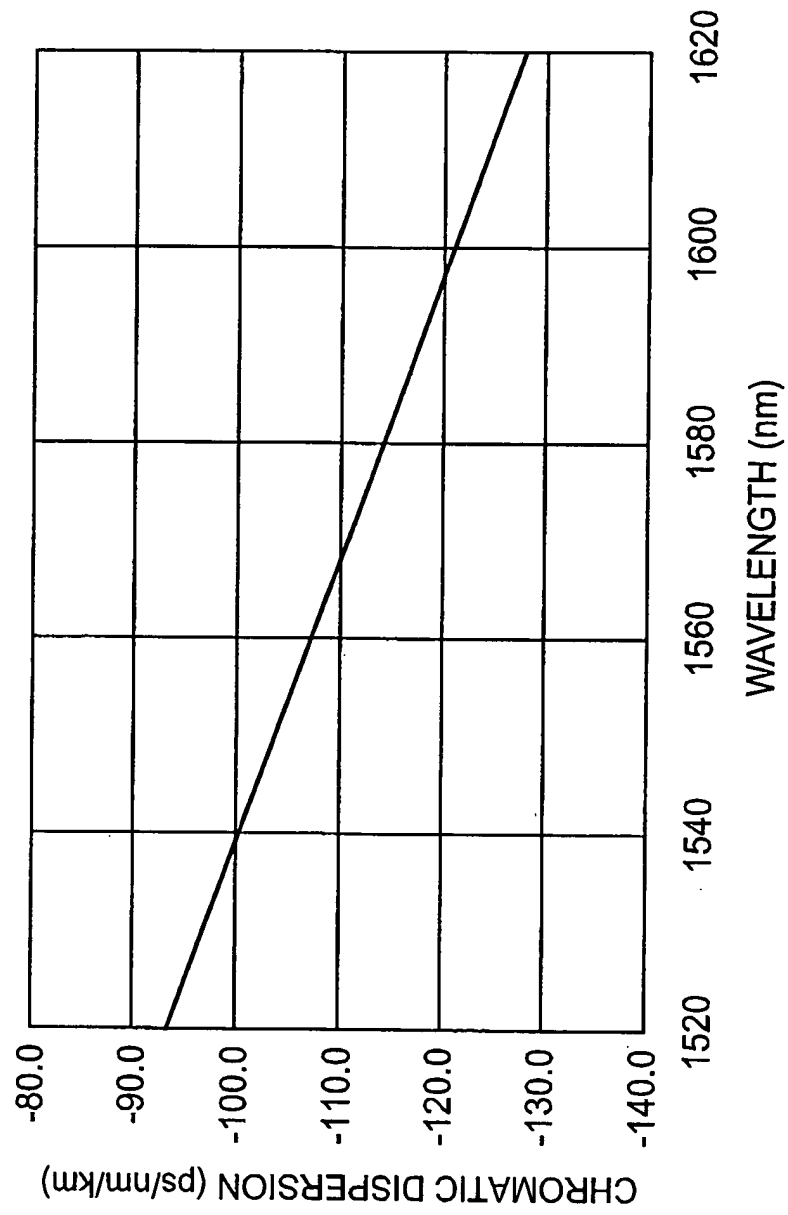
Fig.7

DISPERSION COMPENSATOR	PREPARED FIBER	FIBER LENGTH (km)	GLASS DIAMETER (μm)	COATING DIAMETER (μm)	TOTAL CHROMATIC DISPERSION (ps/nm)	TOTAL DISPERSION SLOPE (ps/nm ²)	INSERTION LOSS (dB)	ACCOMMODATION STATE OF FIBER	INNER DIAMETER OF COIL (mm)	OUTER DIAMETER OF COIL (mm)	HOUSING SIZE(mm)		
											LONG	WIDE	HIGH
SAMPLE M1	F1	1.7	80	140	-300	-0.13	3.3	RESIN HOLD	40		120	120	18
SAMPLE M2	F1	1.7	125	185	-300	-0.13	3.3	RESIN HOLD	40		120	120	18
SAMPLE M3	F1	3.4	125	185	-600	-0.26	4.6	RESIN HOLD	40		130	130	17
SAMPLE M4	F2	0.30	80	185	-80	-0.08	2.1	RESIN HOLD	60		100	100	14
SAMPLE M5	F2	1.14	125	185	-300	-0.31	2.8	RESIN HOLD	60		120	120	18
SAMPLE M6	F2	2.28	125	185	-600	-0.63	3.7	RESIN HOLD	60		130	130	17
SAMPLE M7	F2	4.56	125	185	-1200	-1.26	5.6	RESIN HOLD	60		170	170	17
SAMPLE M8	F2	2.30	125	185	-604	-0.63	7	RESIN HOLD	40	200	220	230	40
	F3 F2+F3	10.8	125	185	-756 -1360	-3.88 -4.5		RESIN HOLD	120				

FP03-0296-00

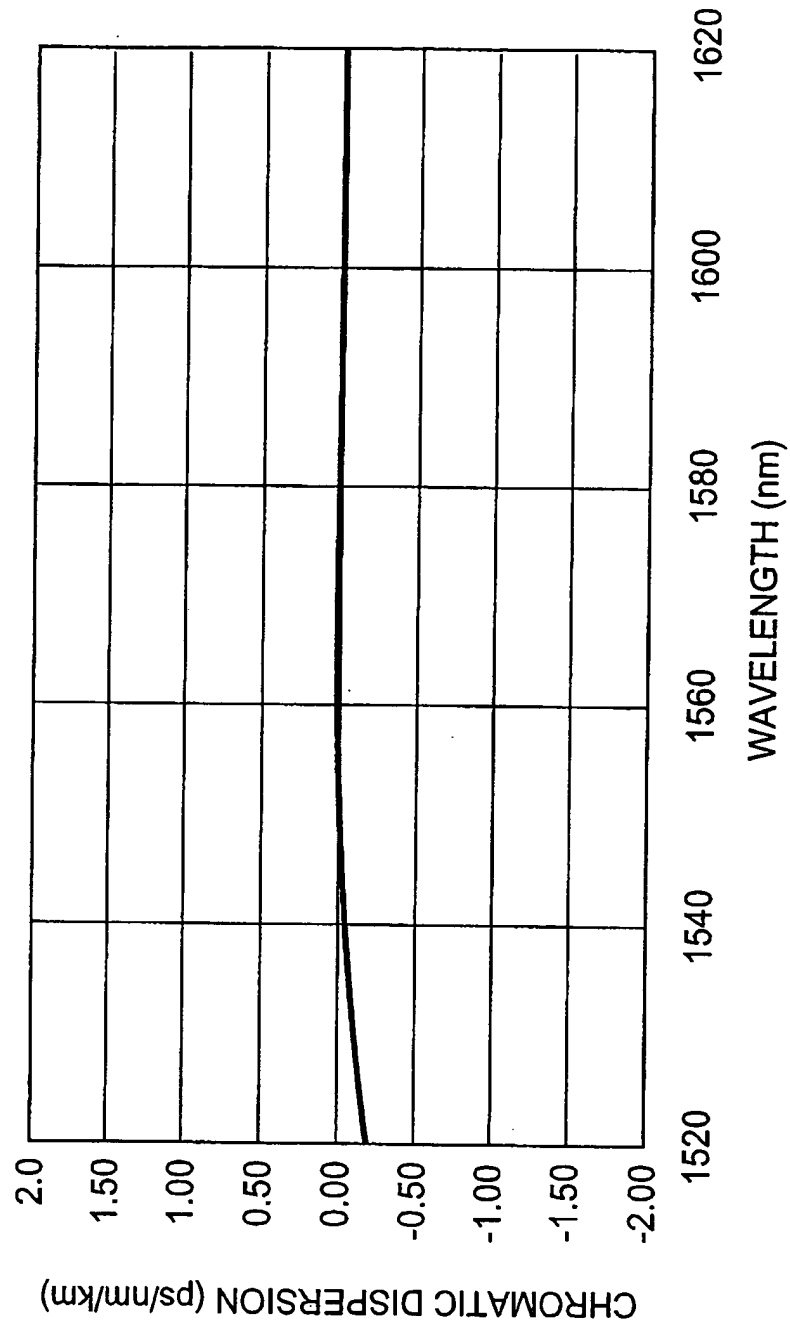
8/22

Fig.8



FP03-0296-00

9/22

Fig.9

FP03-0296-00

10/22

Fig.10

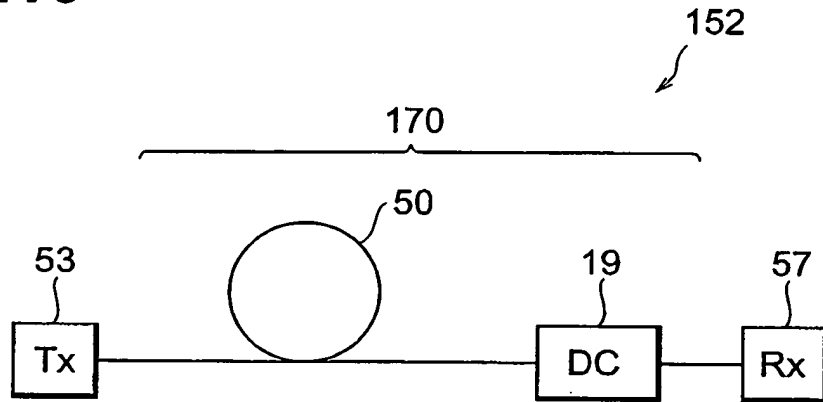
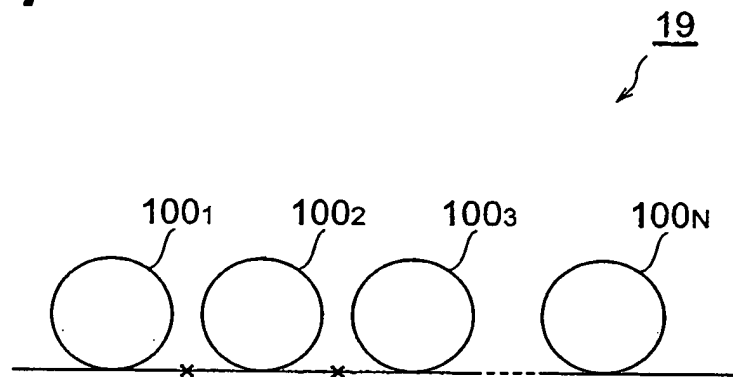


Fig.11



FP03-0296-00

11/22

Fig. 12

DISPERSION COMPENSATING OPTICAL FIBER	$\Delta n1$ (%)	$\Delta n2$ (%)	$\Delta n3$ (%)	$\Delta n4$ (%)	2a (μm)	2b (μm)	2c (μm)	2d (μm)	CHROMATIC DISPERSION AT 1550 nm (ps/nm/km)	DISPERSION SLOPE AT 1550 nm (ps/nm ² /km)	DISPERSION CURVATURE AT 1550 nm (ps/nm ³ /km)	RDS AT 1550 nm (1/nm)	RDC AT 1550 nm (1/nm ²)	EFFECTIVE CUTOFF WAVELENGTH (μm)	BENDING LOSS WITH BENDING DIAMETER OF 40 nm AT 1550 nm (dB)	BENDING LOSS WITH BENDING DIAMETER OF 60 nm AT 1550 nm (dB)
SAMPLE F4	2.8	-0.74	0.32	-	3.2	7.7	15.4	-	-263	-0.28	0.0129	0.0010	-4.90E-05	1.45	≤ 0.05	≤ 0.01
SAMPLE F5	2.7	-0.76	0.31	-	3	7.4	14.8	-	-299	-0.31	0.0256	0.0010	-8.59E-05	1.61	≤ 0.05	≤ 0.01
SAMPLE F6	2.7	-0.78	0.42	-	2.9	7.3	13.2	-	-321	-0.94	0.0460	0.0029	-1.43E-04	1.70	≤ 0.1	≤ 0.01
SAMPLE F7	1.6	-0.5	0.3	-	4.2	11.7	16	-	-82	-0.60	-0.0066	0.0074	8.05E-05	1.40	≤ 0.5	≤ 0.02
SAMPLE F8	1.6	-0.5	0.3	-	4.3	10.9	15.2	-	-71	-0.38	-0.0038	0.0054	5.34E-05	1.40	≤ 0.5	≤ 0.02
SAMPLE F9	1.6	-0.77	0.41	-0.38	1.7	5.7	9.2	11.4	-184	-3.70	-0.0670	0.0201	3.65E-04	1.62	≤ 2.0	≤ 0.05
SAMPLE F10	2.6	-0.77	0.42	-	2.9	7.1	13.2	-	-329	1.10	0.0479	-0.0033	-1.45E-04	1.72	≤ 0.1	≤ 0.01
SAMPLE F11	2.7	-0.76	0.31	-	2.87	6.88	14.3	-	-329	-0.58	0.0276	0.0018	-8.41E-05	1.58	≤ 0.05	≤ 0.01
SAMPLE F12	2.7	-0.76	0.31	-	2.85	6.86	14.4	-	-338	-0.04	0.0423	0.0001	-1.25E-04	1.58	≤ 0.05	≤ 0.01
SAMPLE F13	1.6	-0.5	0.3	-	4.2	11.4	16.1	-	-76	-0.49	-0.0049	0.0065	6.54E-05	1.40	≤ 0.5	≤ 0.02
SAMPLE F14	2.2	-0.72	0.3	-	3.58	10.6	17.5	-	-166	-3.03	-0.0881	0.0182	5.30E-04	1.57	≤ 5.0	≤ 0.05
TRANSMISSION FIBER									CHROMATIC DISPERSION AT 1550 nm (ps/nm/km)	DISPERSION SLOPE AT 1550 nm (ps/nm ² /km)	DISPERSION CURVATURE AT 1550 nm (ps/nm ³ /km)	RDS AT 1550 nm (1/nm)	RDC AT 1550 nm (1/nm ²)			
SAMPLE F15									17.0	0.059	-8.94E-05	0.0035	-5.27E-06			
SAMPLE F16									8.0	0.060	-2.58E-05	0.0075	-3.21E-06			
SAMPLE F17									4.5	0.044	4.09E-05	0.0098	9.11E-06			

FP03-0296-00

12/22

Fig.13A

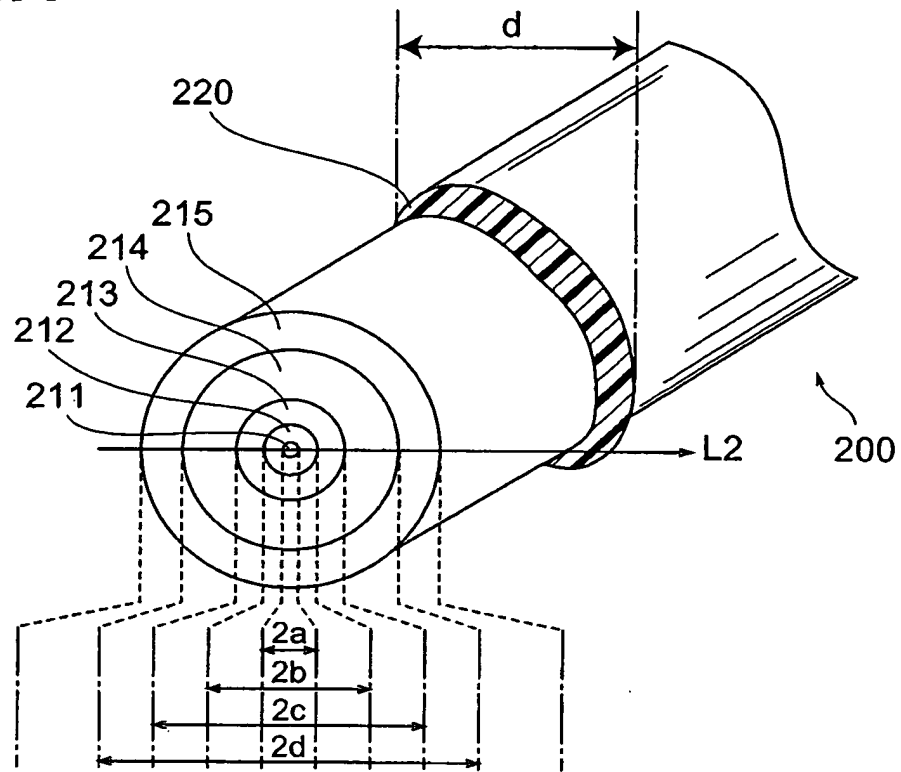
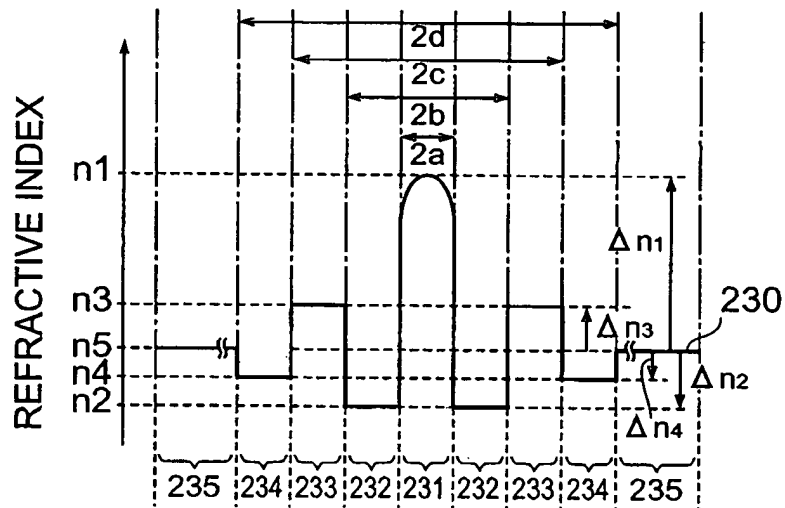


Fig.13B



FP03-0296-00

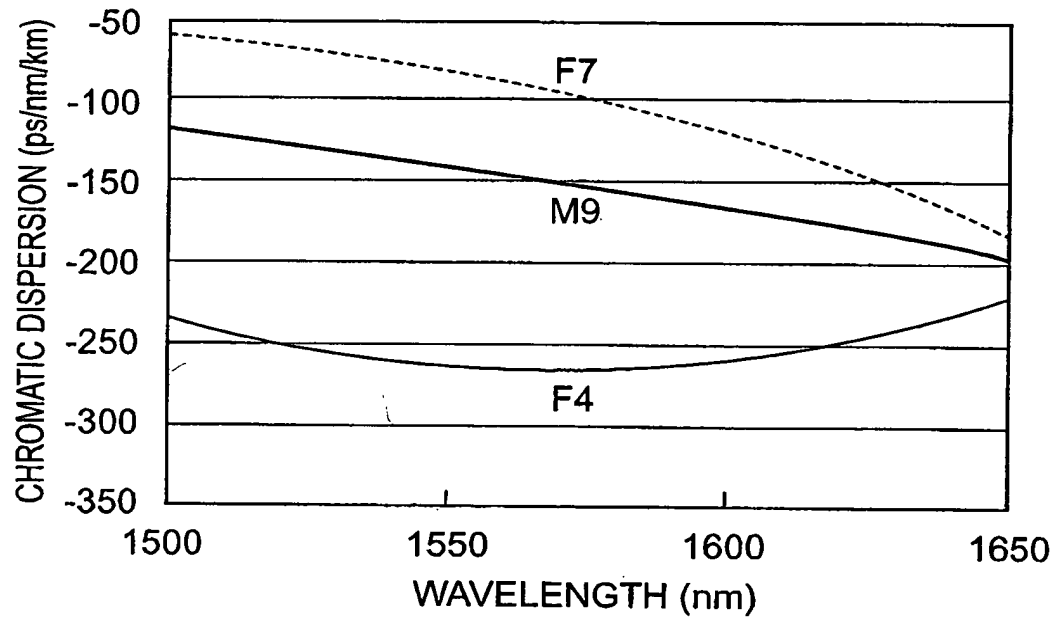
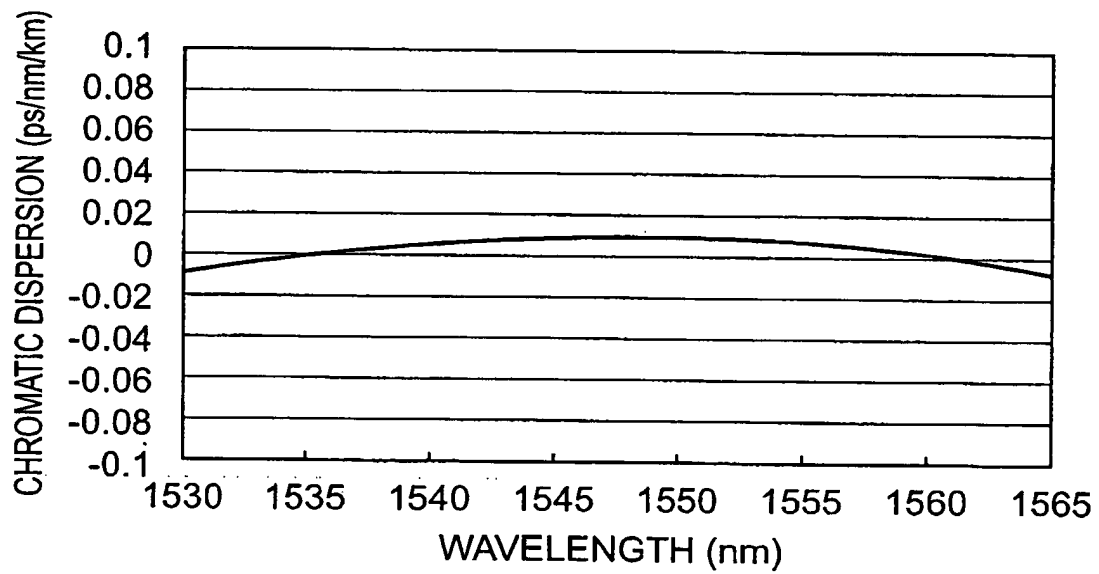
13/22

Fig.14

DISPERSION COMPENSATOR	PREPARED FIBER	FIBER LENGTH (km)	GLASS DIAMETER (μ m)	COATING DIAMETER (μ m)	TOTAL CHROMATIC DISPERSION (ps/nm/km)	TOTAL DISPERSION SLOPE (ps/nm ² /km)	TOTAL DISPERSION CURVATURE (ps/nm ³ /km)	RDS (1/nm)	RDC (1/nm ²)	INSERTION LOSS (dB)	PMD (ps)	NONLINEAR PHASE SHIFT (10 ⁻⁴)	ACCOMMODATION STATE OF FIBER	INNER D AMETER OF COIL (mm)
SAMPLE M9	F4	3.94	125	185								3.51	RESIN HOLD	40
	F7	8.03	125	185								1.81	RESIN HOLD	120
	F1+F7				-1694	-5.94	-0.0024	0.0035	1.42E-06	7.90	0.49	5.32		
SAMPLE M10	F5	2.00	125	185								1.53	RESIN HOLD	40
	F8	10.73	125	185								2.73	RESIN HOLD	120
	F5+F8				-1356	-4.69	0.0107	0.0035	-7.88E-06	6.95	0.43	4.26		
SAMPLE M11	F6	1.84	125	185								0.68	RESIN HOLD	60
	F9	1.15	150	195								0.24	RESIN HOLD	160
	F6+F9				-802	-5.99	0.0076	0.0075	-9.48E-06	3.70	0.29	0.92		
SAMPLE M12	F6	0.82	125	185								0.26	RESIN HOLD	60
	F9	0.99	150	195								0.21	RESIN HOLD	160
	F6+F9				-447	-4.45	-0.0286	0.0100	6.40E-05	2.62	0.21	0.47		

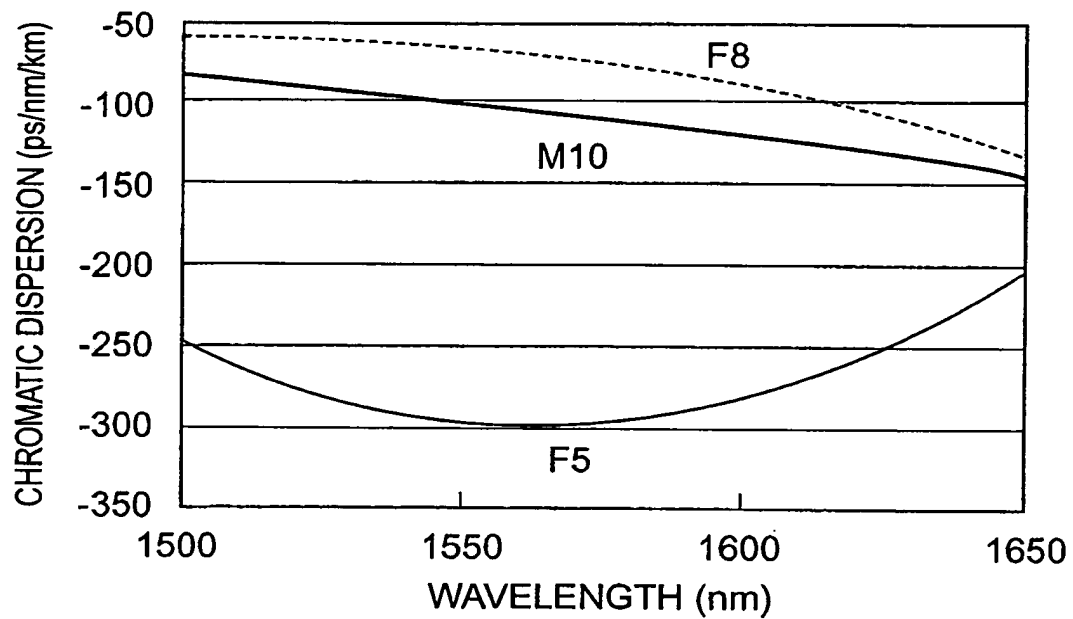
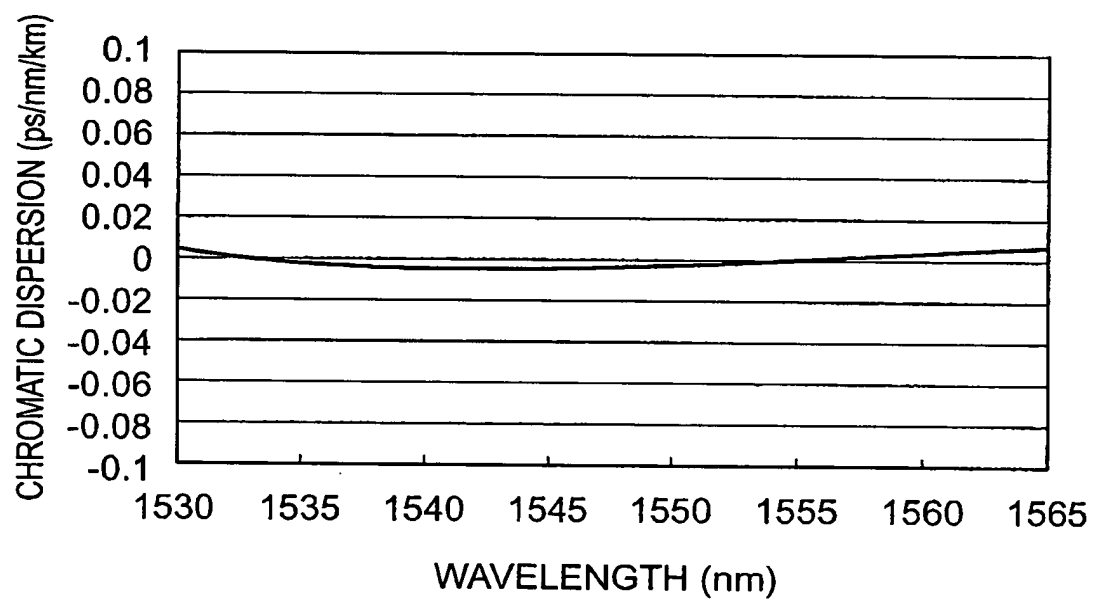
FP03-0296-00

14/22

Fig.15**Fig.16**

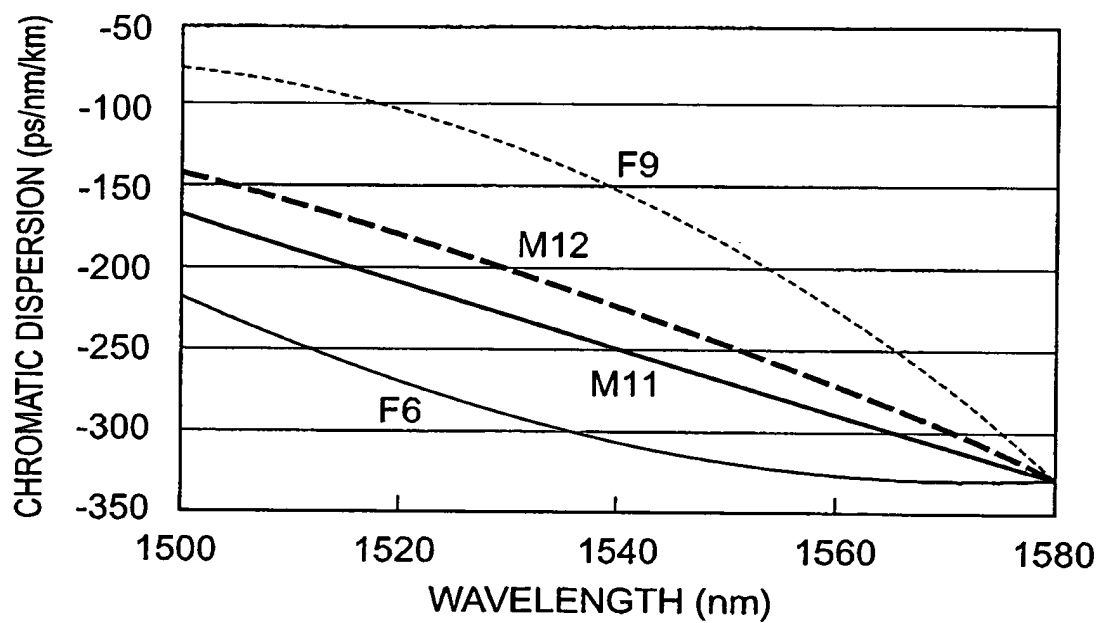
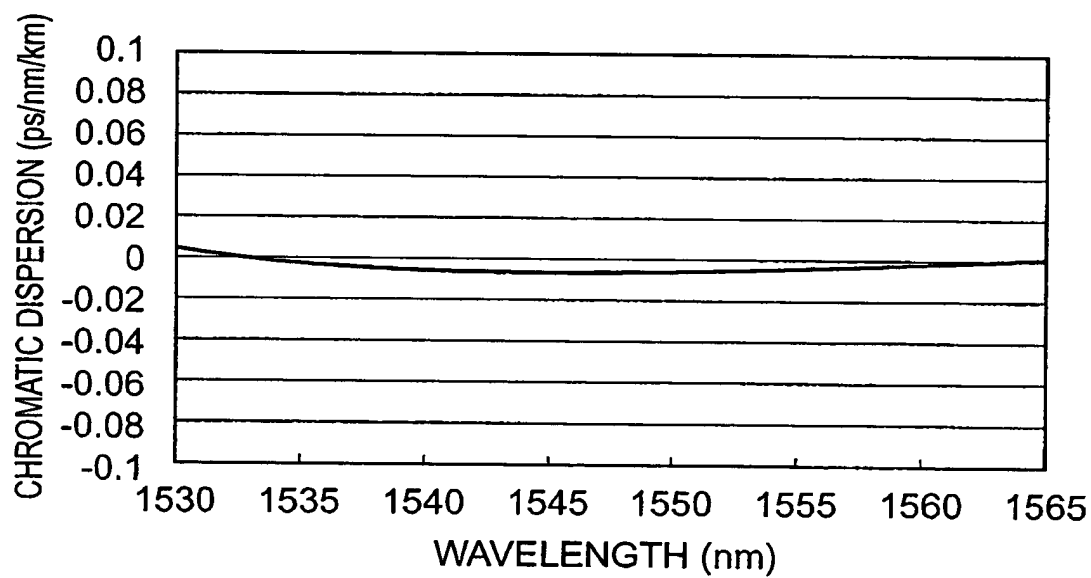
FP03-0296-00

15/22

Fig.17**Fig.18**

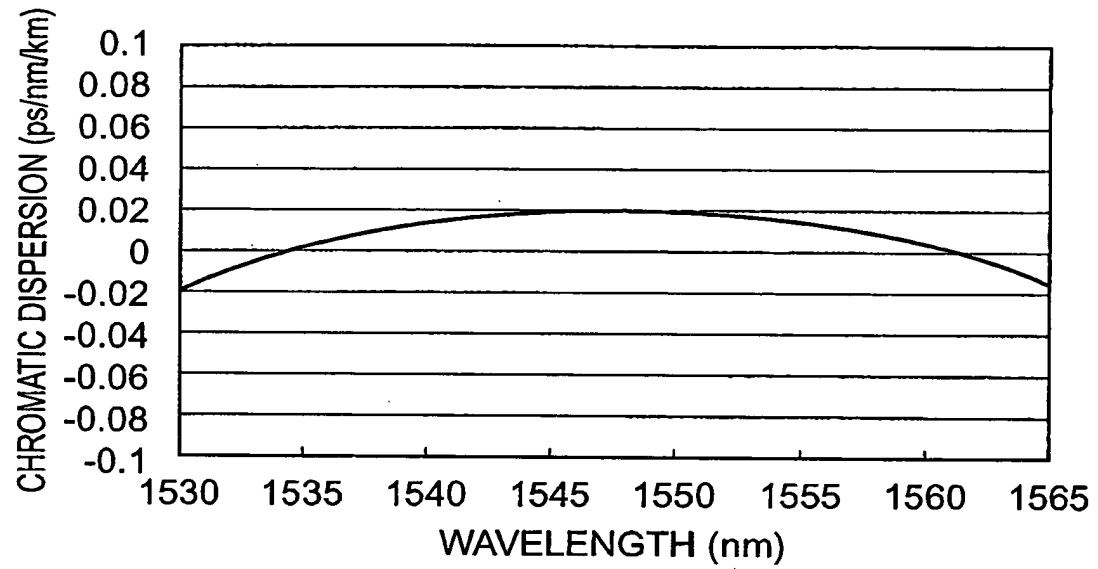
FP03-0296-00

16/22

Fig.19**Fig.20**

FP03-0296-00

17/22

Fig.21

FP03-0296-00

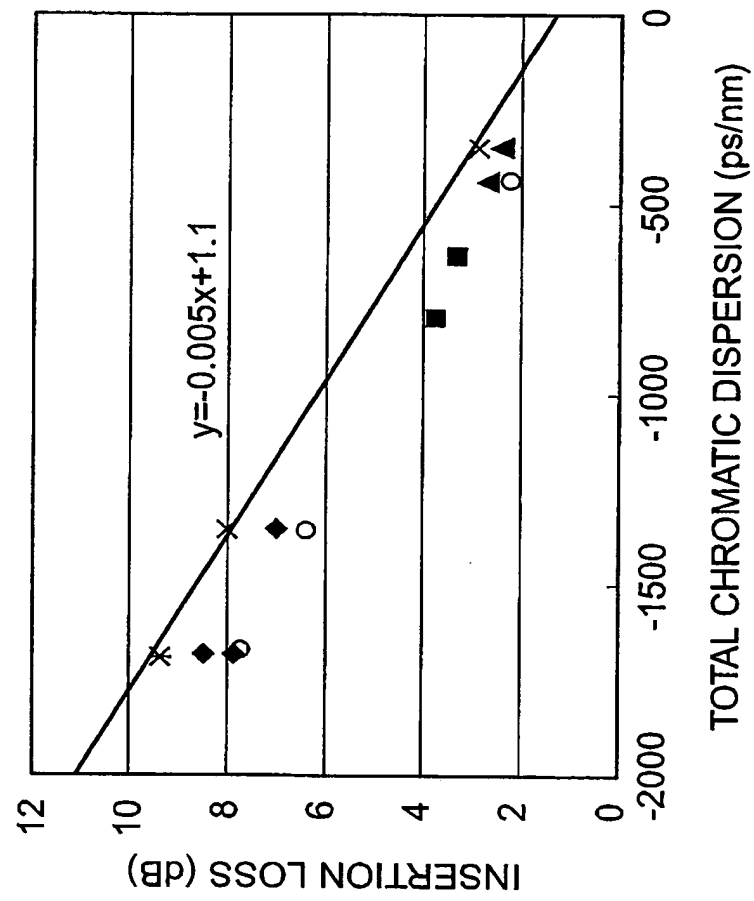
18/22

Fig.22

FIRST OPTICAL FIBER			SECOND OPTICAL FIBER			DISPERSION COMPENSATOR			OPTICAL TRANSMISSION LINE	
SAMPLE	RDS1 (1/nm)	RDC1 (1/nm ²)	SAMPLE	RDS2 (1/nm)	RDC2 (1/nm ²)	SAMPLE	RDS0 (1/nm)	RDC0 (1/nm ²)	TRANSMISSION FIBER	RESIDUAL DISPERSION (ps/nm/km)
F4	0.0010	-4.90E-05	F7	0.0074	8.05E-05	M9	0.0035	1.42E-06	F15	±0.0086
F5	0.0010	-8.59E-05	F8	0.0054	5.34E-05	M10	0.0035	-7.88E-06	F15	±0.0056
F4	0.0010	-4.90E-05	F13	0.0065	6.54E-05	M13	0.0035	2.31E-06	F15	±0.0100
F10	-0.0033	-1.45E-04	F13	0.0065	6.54E-05	M14	0.0035	-6.17E-07	F15	±0.0056
F6	0.0029	-1.43E-04	F9	0.0201	3.65E-04	M11	0.0075	-9.48E-06	F16	±0.0050
F5	0.0010	-8.59E-05	F9	0.0201	3.65E-04	M15	0.0076	6.86E-05	F16	±0.0477
F11	0.0018	-8.41E-05	F9	0.0201	3.65E-04	M16	0.0077	6.10E-05	F16	±0.0438
F12	0.0001	-1.25E-04	F9	0.0201	3.65E-04	M17	0.0076	5.71E-05	F16	±0.0374
F6	0.0029	-1.43E-04	F14	0.0182	5.30E-04	M18	0.0073	5.05E-05	F16	±0.0277
F6	0.0029	-1.43E-04	F9	0.0201	3.65E-04	M12	0.0099	6.42E-05	F17	±0.0186

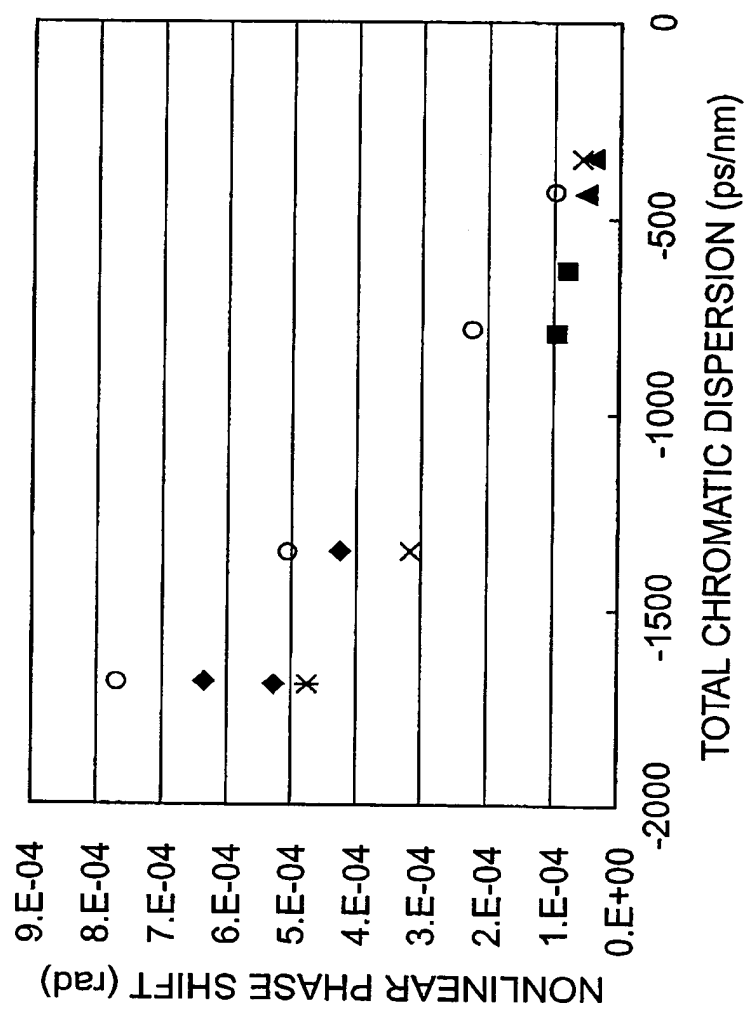
FP03-0296-00

19/22

Fig.23

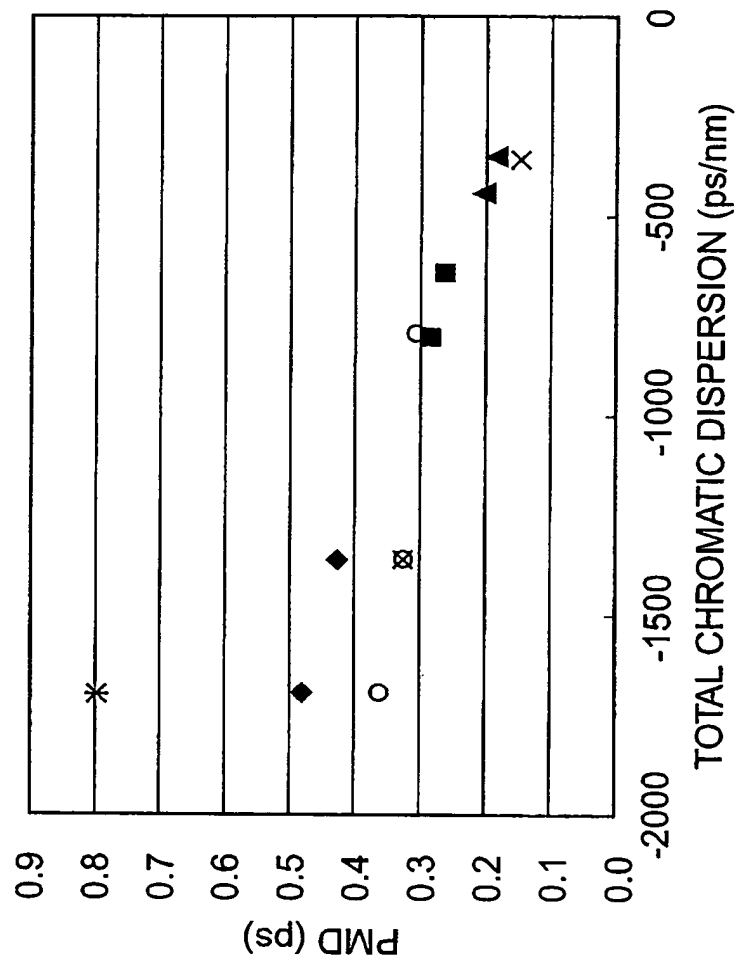
FP03-0296-00

20/22

Fig.24

FP03-0296-00

21/22

Fig.25

FP03-0296-00

22/22

Fig. 26